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### **VOLUME 29 MAY 2016**

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### ON THE COVER

Geoff Gates wanted to prove his point that you could have a totally wicked one-of-a-kind street fighter on a budget without breaking the bank. And while his Oakland, California-based shop-Alloy Motors—certainly has the fabrication chops to churn out super-elaborate fabrication and design work, Geoff wanted people to see what could be done with a regular-guy budget, bolt-on parts, a bucks-down A-Body, and simple DIY mods. Everything in this '67 Dodge Dart could be easily replicated in any home garage—or Geoff can build one for you! Photo by Jorge Nunez

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# PARDON THE DISRUPTION

**Every** couple of years the gasbags in the self-help book industry round up a new set of buzzwords. They go on tour with 'em doing book signings, TED talks, morning talk shows, motivational speeches, and self-help seminars. They rake in millions, then write a check for an overpriced mid-century modern vacation home in Palm Springs. Next thing you know. your boss is sitting across the table from you using words like "empowerment," "proactive," and "engagement." (Extra points if you remember which decade each of these words came from.) You roll your eyes, because you know he got those 50-cent words from his boss, who got 'em from an online article, which cribbed 'em from Dr. Self-Help's trendsetting best-seller.

I hate buzzwords, because it means when the boss starts using them, you know junk is 'bout to change. One of the hottest new

buzzwords in the business world is "disruption." All the fancy companies are using it. If you hear your boss utter this word and he never used it before, freakin' run, because it wasn't picked at random. Here's the drift: get used to change, because if you can't deal with it, you're out. The term "disruption" is analogous to the old saying "nothing stays the same except change itself," only on stupid big steroids.

Having said that, if there's one thing I've learned about Mopar guys, it's that they hate disruption, so I gotta figure out how to keep you guys happy while a legion of 23-year-old hacky-sack-playin' app developers in Palo Alto try to turn our simple, comfortable, time-honored traditions into a giant mushroom cloud.

Workplace disruption comes in different forms, but one I deal with frequently is Facebook. At some point each day, you'll find me digging up cool photos and videos of Mopar stuff and putting them on social media. (Factoid: Through an impressive feat of intercorporate extortion, 5 to 10 percent of my workday involves creating content for my second, nonpaying job at Facebook.) It could be a video of a felony burnout, a fast run at the dragstrip, or a fresh report from a trade show, they all have one thing in common: They attract large numbers of dumbasses spoiling for a scrum.

I can usually tell the difference between a real Mopar guy and a kid with an '84 Civic—one gets it right away while the other is ready to throw down gansta style. Here's an example: After posting video of a bitchin bucks-down homebuilt Valiant running a 9-second quarter-mile "on motor" that drove 500 miles

"On Facebook, it's simply not enough to be stupid, a growing number have to be angry and cruel too."



on Hot Rod Drag Weekend (an impressive feat by any yardstick) one clown decides to pick a fight over the semantic difference between a motor (electric) and an engine (internal combustion). Five of his equally stupid friends jumped on board before finding out "on motor" is established slang for running an engine naturally aspirated. Real gearheads know that.

Exhibit B: After posting killer barn-find footage of a '69 Dodge Daytona (we'll be bringing you an exclusive next month), another millennial chided, "Are you that poor that you can't afford a car cover and storage unit?" By definition, a barn find is forgotten and neglected, it's discovered in a barn or shed, and pretty much is not a "museum find," hence its name. Social networks are bursting at the seams with profundity like this.

Disruption is the price we pay when there is no price for admission, no skin in the game. Social media presents a unique challenge: it forces us to dumb down nuanced technical, or historical content from a mature industry and peddle it to Pinterest followers without looking foolish, or laughing so hard you shoot a cheese sandwich out your nose. Admittedly, stopping just short of banality is difficult, but perhaps not impossible.

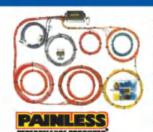
And yet, willful ignorance isn't my main gripe—instead, it would have to be the near lack of sociability, the big irony of the social media experience. On Facebook, it's simply not enough to be stupid, a growing number have to be angry and cruel too. (See how it's rubbed off on me?!) Antisocial behavior—not the fun kind with tires on fire—is a by-product of anonymity. It has stunk up the place so much that simple decency has been obliterated. Picture for a minute if some of this trash talk was uttered face to face in a live Mopar crowd. The perps would lose some front teeth real quick. For that reason, I'm asking a favor: If you happen to see me drowning in a sea of idiotic babble, please give me a shout-out—I'll appreciate the friendly face. I bet if we make the effort, we can return civility to the Web. Hell, I might even buy you a virtual beer.



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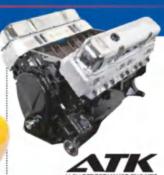
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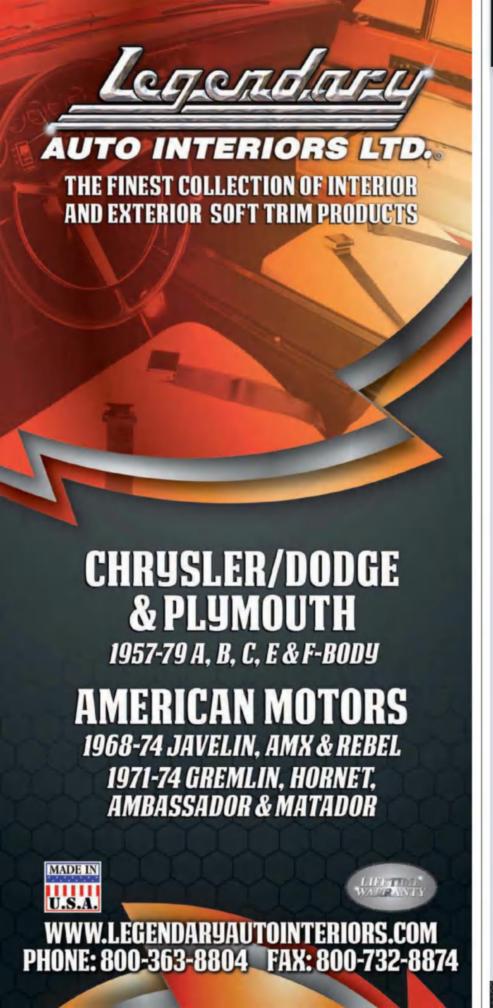
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# FIREWALL & COWL REPLACEMENT

# BECAUSE RUST ALWAYS HAPPENS WHERE IT'S LEAST CONVENIENT!

it's true that sheetmetal will rust just hanging out in a humid environment, the most serious damage usually occurs where water can repeatedly collect and linger for some time. Rust around the windshield frame then is not uncommon as water frequently gets trapped behind the trim and over time eventually gets under the paint and then eats away at the metal.

The damage to the cowl/firewall area of this '70 Challenger though, was found to be much worse than was expected from what was believed to be an essentially rust-free "Nevada" car. Most cars tend to rust from the ground up due to exposure to road salt in the Midwest or from just sitting over damp ground for many years, but this one seems to have rusted from the top down leading the crew at Muscle Car Restorations to conclude that it must have had extended exposure to salt air near the ocean.

Whatever the cause of the damage, a call to Auto Metal Direct provided MCR with both full firewall and cowl replacement panels.

As you might imagine, removing the entire cowl and firewall from the car will leave the surrounding parts vulnerable to shifting out of position. That's just the nature of unibody construction. It's understandable to think that installing the new panel would automatically realign any parts that may have moved a little during the process, but the experts at MCR have found the opposite to be true.

In order to retain the original integrity of the car, the new parts must be adjusted to fit the original car not the car to its new parts. That means adequate bracing must be attached to the car to ensure that nothing original is allowed to move while the new parts are being installed. The best way to do this is on a solid frame rack, but what's critical is that sufficient bracing can be constructed to hold everything in place until it's all welded back together.



Given the condition of the rest of the car, this level of cowl and firewall damage seems a bit odd. Note that the windshield frame itself is relatively clean. Fortunately, AMD can supply the full firewall and cowl to make this repair possible.



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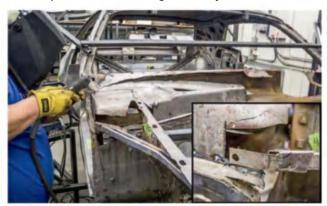


Solid bracing of the unibody structure is absolutely essential to the success of a job like this. Everything that could be structurally affected by removing these parts must be secured to ensure that nothing moves during the process.

The easiest way to gain access to the numerous spot welds that will need to be drilled to remove the old firewall/ cowl assembly is to use a plasma cutter to remove whatever is



needed to be able to reach them. Note that the factory stamping inside the box will be saved and inserted into the new panel to retain the original factory look.



Note this tab at the end of one of the inner fender support brackets. There are four of these (two on top and two on the sides) that are used as a reference to align the new cowl panel.

Here it can be clearly seen how much easier it is to reach many of the spot welds that attach the firewall to the inner fenders once much of it has been removed. These parts do not need to come out whole. MCR likes to drill the



spot welds as that is the cleanest way to separate panels without in any way distorting the ones that are staying and are needed for reference for the new parts.



Between all surfaces that will be spot-welded together, MCR sprays a coat of SEM Copperweld weld-through primer to ensure that these area stay rust free.



This is the interior side of the new AMD firewall. Note the two brackets on the upper left and right. These will both be removed from the AMD part as the originals were left attached to the A-pillar/door post as an alignment reference.



This is the top side of the AMD cowl. The e-coat is removed from all the weld seams before the Copperweld is applied, as MCR has found that the e-coat can interfere with the spot welds.



This small part of the original firewall was left attached to the doorpost so it could be used as reference point to help align the new firewall. This part was removed from the new AMD panel.

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Since the firewall sits on top of both doorposts, the vertical positioning is fairly easy.



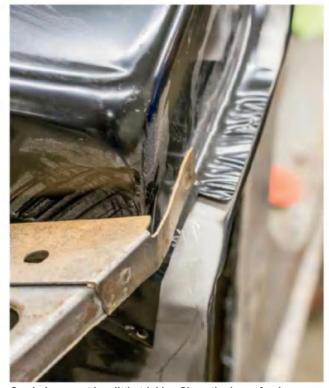




The left/right positioning of the firewall is best determined by referencing the transmission hump.



Once the panels are positioned, MCR will use Cleco fasteners and/or 1/8-inch sheetmetal screws to hold everything in place. They have found that these pins or screws will securely hold the parts in place until they are ready to weld. No temporary tack welding is needed, which makes it much easier to remove these parts to begin replacement of the obviously damage doorpost. Now that the firewall/cowl is fitted, it becomes a reference for the doorpost parts.



Cowl placement is a little trickier. Since the inner fenders were securely braced, this tab and the same one on the other side provide a sure point of reference for left/right alignment. Here it is clear to see that the cowl needs to move a bit to the driver side of the car.



Even though it is very likely that the cowl and firewall are exactly where they need to be, they will not be final welded until the doors, fenders, hood and even the windshield and

trim are mocked up to be absolutely certain everything will fit perfectly. Essentially, the entire car is reassembled before any spot welds are done. It's an extra step that MCR takes to ensure that there are no surprises and that all the gaps and seams are perfect.

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**TEXT AND PHOTOS: ROB FISHER** 

EFORE HEADING TO THE PAINT BOOTH, EVERY IOPAR NEEDS SOME ATTENTION TO DETAIL. HERE'S HE TOP FOUR NITPICKS ON OUR '69 CHARGER ...

last we left our '69 Charger, we borrowed one of the car's many dents and dings to show you how to repair a pesky trouble spot, and now it is back to some full-time work on the car as the boys at The Finer Details head into the home stretch of bodywork in anticipation of moving to the paint booth. In this installment, Scott Dowdy and his capable crew tackle the roof of the car and some other seemingly small, but important, items to move the whole car along. It wasn't as quite straightforward as originally anticipated, but then again, is it ever? Follow along as the final product begins to take shape.



This car had to have quite a bit of metal replaced on it. One of the spots that made the cut was the roof (in gray), however, the quarter-panel (black) is all new metal from Auto Metal Direct. You can clearly see the seam has to be filled.



from a junkyard crusher, and had

new metal installed.

The Finer Details' Scott Dowdy begins the process by sanding that seam space down to the bare metal.



It's important to get down to the bare metal to promote good adhesion for the filler. Otherwise, separation and cracking will occur down the road.



Dowdy mixes the filler base and hardener together until he gets a nice consistent color throughout.



The filler is spread evenly across the seam and feathered out well beyond where the actual "trench" is. This will allow Dowdy to sand it down to a perfectly smooth finish.



Sporting the latest in respiratory fashion, Dowdy uses his air file board with 80-grit paper to sand down the filler. He'll now be ready to tackle the bodywork on the roof itself.



Unfortunately, as Dowdy inspected the roof prior to doing that bodywork he noticed several large dents and ripples. Upon further inspection, it was discovered that the roof braces were bent. Not knowing the full history of the car meant we really had no idea how this happened. All we do know is that the braces had to come out to be reshaped. Here, Dave Engle drills out each brace.

Engle uses a vise to hold this brace as he reshapes it by hand. He starts at one end and works his way down to the other. You can clearly see how wonky this brace really is. There is no way Dowdy could have gotten the finish he was looking for without fixing this brace.





With the braces reshaped, they are welded and glued back into place. Once cured, the guys can get back to the bodywork.



Dowdy hammered out some of the bigger dents in the roof using the hammer and dolly method we previously showed. He followed that with a coat of U-Pol Fibral Lite fiberglass filler for a good strong base. Using an air file board fitted with 40-grit paper he sanded the filler down to get it to the finish you see here.

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After the Fibral Lite, he re-coated the whole roof with USC Feather Rite body filler, which was then block sanded with 80-grit paper. Dowdy then added Metal Glaze to fill pinholes before blocking the whole roof again with 80-grit paper.



Jay Webb injects pillar foam into between the trunk lid and the back structure bracing to stiffen the trunk and keep it from "oil canning" over time. It's one of the many neat little tricks that the guys at The Finer Details employ to make a restoration first class all the way.







Webb continues to lend a helping hand by beginning work on the driver side of the car, which includes sanding on the fender and rocker with 80-grit paper. Note the taped lines. These act as a guide in maintaining and sharpening the body lines as the crew applies body filler to the car. They essentially are working in sections, one at a time.

In this installment, Scott
Dowdy and his capable crew
tackle the roof of the car and
some other seemingly small,
but important, items to move
the whole car along.



As you can see here, the passenger side of the car is all but complete and ready for primer and then paint.



The only items left to tackle are the bodywork on the trunk lid, hood, and front valence then it is off to primer!



Take a good look, because this is the last time you'll see our Charger project in this state. The next time you see it we'll be deep into the primer and paint process.

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# SCAT PACK DRAG ATTACK

WE STRIP TEST TTI HEADERS AND A DIABLOSPORT TUNE IN A 392 CHALLENGER, SHOOTING FOR 11S ON STOCK TIRES.

previous installments, we used our stripe-delete '15 Scat Pack Shaker Challenger to dyno-test a couple of bolt-ons. First, we established baseline dyno numbers (371 rwhp) at Tune Time Performance (TTP) in Lakewood, New Jersey. Next, the stock PCM was swapped for a Diablosport-modified PCM needed to tune a 2015-and-later model. After that, the Diablosport Trinity programmer/tuner was plugged into the OBD-II port and set for a "93-octane tune" showing us a gain of 13 hp (384 whp).

Wanting more than a stock 93-octane tune, we installed TTi's long-tube 1-7/8-to-2-inch stepped headers and connected them to the stock Active Exhaust. The headers required a custom tune (Diablosport CMR) to be written by TTP and downloaded into the Trinity tuner. Spinning the rollers showed us the TTi headers and Diablo tune was responsible for gains of 26 hp and 28 lb-ft. At that, with cooler autumn air approaching, we wanted to take a shot at getting this Scat Pack into the 11s—but could we get there on stock tires? That was our goal.

Our friends at TTP reserved a date for a track rental at Atco Dragway in Atco, New Jersey. We hoped favorable weather conditions would make 11s a possibility. For our track attack, the day started out with 60-degree temps, with 49 percent humidity and a steady barometer of 30.24. Unfortunately, the barometer dropped and the temperature rose after our first four passes down Atco's quarter-mile. By the fourth pass our launch technique enabled the Scat Pack to put down a 12.06 at 114.99 mph with a 1.86 60-foot. After more seat time our 60-foot time improved

to a 1.78 and 1.79. Those 60-footers should have shown us an 11.98 and 11.99, but the worsening weather conditions slowed us to a 12.11 and 12.14. Yes, that 11-second timeslip eluded us, yet we had lots of fun runs against a Scat Pack Charger, Hellcat Challenger, and a slew of GM late-model muscle. Next time, we'll be packing drag radials for easy 11s. For now, check out the highlights from our passes rocketing down the Atco quarter-mile.



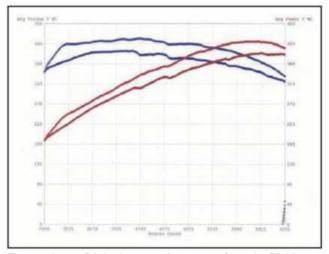




When it comes to any '15-up Dodge product, no legitimate tuning can happen until you grab a Diablosport-specific unlocked PCM, and one of their handheld Trinity tuners. Though we used it initially for a bone-stock 93-octane tune-up, we then used it for our TTi exhaust, as well as all future mods.



Our next move was TTi's attractive and functional long-tube step headers, high-flow cat pipe, and X-pipe. At this point, and with help from Diablosport, we were up 26 hp over the stock baseline.



The results we felt in the seat of our pants from the Diablosport tune and TTi exhaust were verified on the chassis dyno at Tune Time Performance, but we still didn't know what that translated to on the quarter-mile. We wanted to know, and so do you! We decided to head out to Atco and find out.



One of the oldest tricks toward a lower e.t. is raising the front tire pressure to 40-45 psi. We pumped them up to 42 psi for less rolling resistance. The higher tire pressure is worth roughly a haft-tenth (.05) quicker e.t. Lightweight front skinnies will almost always guarantee a gain of a full tenth and 1 mph in the quarter-mile.



Once we arrived at Atco Dragway the rear tires were lowered to 28 psi. Later after our third pass, our drag racing experienced LX-body friend Eddie Perez, who brought along his Hellcat, told us to try a 24-25 psi. Attention to tire pressure and precisely timed throttle depression without wheelspin would get us the lowest 60-foot e.t.'s on stock street tires.



No burnout is necessary on stock street tires. A standing burnout will make street tires more slippery and spin coming off the line. While rolling out of the burnout box, we moderately spun the tires for roughly 10 feet to clean them and proceed to the starting line. Also with street tires, avoid going through the water in the burnout box area.



You got to love this view of the dragstrip from the driver's cockpit! When reacting to the third yellow countdown light on the Christmas tree, the green light will come on to start your race. It's a great experience of legal, safe fun that any go-fast lover will enjoy! Pictured here the second yellow is lit as we wait for the third bulb to light, and we're gone.



1127 120,74

E.L. ... 13.07

EL

... III 40

17.79

117,91

... 114.5

- IILO



Even though we continued to quicken our 60-foot time, our quarter-mile e.t.'s were getting slower due to the worsening weather conditions. Our buddy Eddie Perez in his bone-stock Hellcat with drag radials gave us a large lead (roughly 10 cars). Eddie ran us down and blew past us on the top end of the track. His 10.43 was his best of the day. Our 12.24 came via a 1.86 60-foot.



ond and third pass, the 60-foots were 2.06 and 1.91 with a 12.58 and 12.09 e.t., respectively. Throughout the day we made pairs of back-to-back passes, then let it cool-down for 20 to 30 minutes. Late-model Hemis will go faster on their backup (hot-lap) pass.

quarter-mile. In the other lane a modified

C6 Vette sporting drag radials hooked

with a better 1.83 60-foot but missed a

gear and ran a slower 13.25 at 120.24

mph e.t.



10.573

... 114.16

The 60-foot times continued to improve as we dialed-in to the car and track. By the seventh pass our foot-roll timing on the go-pedal brought consistent high 1.7 to low 1.8 60-foot times. Here on this eighth pass a well-prepped 10second ZL1 Camaro was in the far lane. We performed our best 60-foot, a 1.78 with a 12.11 at 114 mph. If weather conditions didn't get worse, we believe an 11.9 would have been possible. Next time we are bringing sticky tires to ensure easy 11s.



with the '15 Scat Pack Charger of Dan Weinstein. Notice Dan's Charger is running lightweight aluminum wheels with sticky Mickey Thompson drag radials, hence his quicker 1.77 versus our slightly spinning 1.88 60-foot. The Charger's only mod is an air intake. The TTi headers helped us catch and pass the Charger. The timeslip shows our 12.20 at 114.55 to Dan's 12.25 at 112.93 mph.

### SOURCES

### DIABLOSPORT

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**TEXT AND PHOTOS: STEVE DULCICH** 

# **CROP DUSTER 383**

ROADKILL TV'S ICONIC LOW-BUCK A-BODY GETS A BUDGET-BUILT BIG-BLOCK TO RUN 11S.

numbers over a long production run, it comes to sheer the 383 was the most common big-block produced by Chrysler. Back in the famed era of production muscle cars, the 383 served duty in performance applications as the standard engine in midrange performance cars such as the famous Road Runner and Super Bee models. These 383 cars were far more plentiful than their more famous 440 and Hemi brethren, offering a taste of performance to the masses. With a factory rating of 335 SAE gross horsepower, the 383 was not quite up to the level of the upper-tier muscle engines, but with the same cam, exhaust manifolds, and heads as the 440, the 383 seemed to pull deeper into the rpm range, making it more than a match for the mid-level offerings of the competition.

As it stands today, in the world of bigblock performance, big has gotten even

bigger with the popularity of stroker combinations, and a plain old 383 is considered small-block sized in displacement. With 383 core engines still plentiful and rather underappreciated, these little bigblocks can be the basis for strong-running, low-budget street performance. This is what we contemplated when revisiting the powerplant for the Roadkill show's '70 Plymouth Duster. Quickly assembled with a used low-compression motorhome 440, the "Crop Duster" was relatively quick, turning a best e.t. of 12.39 at the track.

The tired 727 in the Duster just didn't seem to shift right, and here's where things began to snowball. Since we were pulling the used 727 and unknown torque converter to swap in a TCI Super Street-Fighter trans and matching converter we decided to pull the old motorhome 440. As might be expected, we saw this as the ideal opportunity to revisit the engine combo and upgrade the 440's pistons for an increase in compression. Not surprisingly, one thing led to another, and we found a cylinder with corrosion-damaged walls, foiling our simple re-piston plan. Regrouping, we decided to treat the 440 to a full build, leaving the Duster at least temporarily without an engine.

### **ENTER THE 383**

We did have a 383 dyno engine that had originally been built years ago to test

"The more we looked at that 383 short-block, the more we liked the idea of a simple stock-based build."









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Our 383 project started with a 0.060-inch over-bored short-block that we had initially built nearly 10 years ago as a dyno mule. The bottom end featured a stock 3.375-inch stroke forged crank, factory main caps with ARP studs, and reconditioned factory rods.



The engine was originally built with high-dome, +13.5cc Diamond pistons. For a pump-gas-friendly compression ratio, the pistons were machined down to a short dome, and then hand-blended and polished for a final volume of +6.5cc.



A stock replacement Melling oil pump circulates the oil, while a factory windage tray helps keep the lubricant separated from the spinning crank. We did blend and deburr the oil galleries, but retained the OEM 3/8 NPT oil pick-up tube.



For fitment in an A-Body, the OEM number 187 oil pan from a C-Body application has a notched sump that allows clearance for the idler arm. To control oil slosh in the shallow pan, we added significant baffles at the front and back of the sump.

low-deck intake manifolds. After sitting neglected and robbed for parts for years, the engine had been reduced to a shortblock, as built with the stock crank and rods, and domed Diamond pistons. With dyno time only, starting with the remains of this 383 would short-cut the build time, since there would be virtually zero wear on the previous machine work. The more we looked at that 383 short-block, the more we liked the idea of a simple stock-based build. The low-deck 383 would be a much better fit in the cramped A-Body engine bay—particularly with power steering. The 383 would also shed some weight, and with track rules allowing a minimum e.t. of 11.50 without a rollbar, it had the potential to max-out the performance level we were after.

Our build plan here was simple: We would keep the stock 383 crank and rods, but the high-domed Diamond pistons at 13.5cc would be too much for a

pump-gas street driver. Compression ratio is always an issue with a 383 engine, as the basic flat-top pistons on the market, in combination with the typical Mopar big-block heads, tend to calculate to a very low ratio. This is especially true with typical factory iron heads at 90cc. The situation greatly improves with Edelbrock now offering their Performer RPM and E-Street heads with 75cc combustion chambers. With these heads, a typical flat-top combination will result in a 10:1 compression ratio.

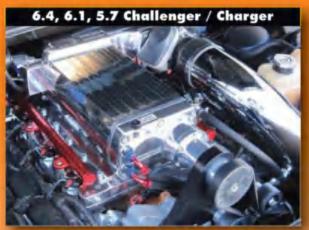
Since we already had the big-domed pistons and were looking for just a little more ratio than that, we opted to machine our existing slugs down to a net dome of 6.5cc, resulting in a compression ratio of just over 11:1. With the aluminum heads and plans for a healthy camshaft, we were comfortable with that compression ratio, even on straight pump gas. Our 0.060-over Diamond pistons featured a

race-style 0.043/0.043/3mm ring pack, so we filled the grooves with Total Seal's 0.043 nitrided steel top ring, a ductile-iron Napier second ring, and a medium tension 3mm oil ring assembly. Total Seal was very helpful in helping us spec a ring package specific to our application.

While the piston and ring assembly consists of higher-end components than the typical mild street built, the rest of the short-block was as basic as it comes. We installed the 0.010-under factory steel crank using new Clevite bearings, fastening the stock main caps with ARP studs for improved bottom end clamping. Other than some mild radiusing and deburring of the stock oil galleries, the lubrication system received typical rebuild components, including a standard-volume Melling oil pump drawing through a stock 3/8-NPT pickup, a factory #187 C-Body oil pan, and a factory windage tray. We did add simple sheetmetal baffles to the

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stock pan to prevent uncovering the pump pickup screen during hard acceleration and braking.

### **CAMMING-UP**

We knew the cam and valvetrain components would make or break our combination. To make power, our 383 would have to make up what it gives up in cubes with rpm. We were after a useful rev range of up to 7,000 rpm, and to get there we opted for a solid flat-tappet cam. In terms of power and rpm potential,

street durability, and price, the solid flat was the most practical choice. Making this selection even more viable are the new EDM oil-feed solid lifters available from COMP. These lifters feature an oiling provision directing lubricant at the critical cam-to-lifter interface. We had a custom cam ground by Competition Cams, using their very aggressive MM-Series lobe profiles. These lobes are true 0.904-inch lifter designs, maximizing the lift available from Chrysler's large-tappet diameter. We went with a single-pattern grind, using lobe number 6583 on both the

intake and exhaust, with the lobe separation cut at 108, and 6 degrees of advance ground into the cam. This cam delivers a theoretical lift of 0.562 inch, however we upped the rocker ratio to 1.6:1 with COMP's aluminum roller rocker kit. This kit comes complete with needle-bearing rockers, hardened thick-wall shafts, and hold-downs. Our true measured lift at the valve was recorded at 0.570 inch, net of 0.020-inch lash.

We topped our simple stock-based short-block with the aforementioned Edelbrock cylinder heads. Other than

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We had the cam ground with 6 degrees of advance, and confirmed the cam timing at 102 degrees installed intake centerline when we degreed the cam. A COMP Hex-A-Just billet timing set links the cam to the crank and allows a broad range of adjustment.



Edelbrock's RPM heads can now be had in a smaller 75cc combustion chamber volume, greatly helping the compression ratio situation with the small displacement 383 engine. We ran the heads in stock form, but did upgrade to COMP Beehive springs. On the bench the heads flowed 289 cfm, versus Edelbrock's claimed 292 cfm peak intake flow—well within testing tolerance.



Our valvespring choice was the COMP #26120 Beehive spring set, which provides very good valve control with moderate spring loads. These springs deliver 155/377 closed and open load, and control up to 7,000 rpm.



Completing the valvetrain package is a set of Manton pushrods and COMP's #1073-KIT aluminum roller rocker set, which delivered a measured 0.570-inch lift with our solid-lifter COMP cam.



We had both the Edelbrock Victor and Edelbrock Performer RPM manifolds on hand, and decided to run both on the dyno to determine which would be better in our application.



Our first manifold would be the Edelbrock Victor. This tall, long-runner intake is about as good as it gets at high rpm from a single-plane manifold designed for the standard production sized port.



### **TECH | CROP DUSTER 383**

swapping to COMP's No. 26120 Beehive springs, the heads were simply bolted on straight out of the box. To feed the heads, we had two intake manifolds available, the Performer RPM two-plane, and the Victor single-plane. Like the cylinder heads, the Edelbrock manifolds were used unmolested, right out of the box. Feeding the little big-block, we went with a big carb, Holley's 1000 HP. While this may seem gigantic for the actual 394cube displacement, eventual track time and several thousand street miles proved

otherwise. At the other end of the flow system, we completed the engine assembly with a set of TTi 1 3/4-inch headers, which are designed to fit the big-block A-Body application.

### **TO THE DYNO**

With the 383 refreshed and reconfigured, it was back to the Westech dyno to see what our little big-block would do. We started with the big Victor single-plane intake, taking the time to run the engine through the automated break-in cycle on the SuperFlow 902 engine dyno. Right

off the bat we could hear the crackle of power in the exhaust note—not surprising with the high compression and the tight lobe separation on our custom COMP cam. We also noted that the Total Seal 0.040-inch rings were sealing as tight as a drum, with not a wisp of blow-by showing, even under load. With preliminary tuning of the timing and jetting, we finally ran it for the numbers. The scoreboard showed a peak of 511 hp at 6,300, and a power curve that held on to over 508 hp right up to the top of our test range at 6,500 rpm. Torque was strong, right from



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To deliver the air/fuel mix, we went with a big Holley 1000 HP, which is one of the largest 4150-flanged carbs available. It worked great both on the dyno and later at the track.



TTi provided the 1 3/4-inch headers for our application, which later proved to be an excellent fit in the A-Body chassis, even with power steering.

"The situation greatly improves with Edelbrock now offering their **Performer** RPM and E-Street heads with 75cc combustion chambers."



We found the single-plane combination made excellent power, with a peak of 511 hp at 6,300 rpm, and very little drop in power right up to 7,000 rpm



Next, we cleared the deck to bolt on the Edelbrock Performer RPM manifold. With the small displacement, we welcomed the potential torque advantage, but not if it came with an excessive loss in high-rpm power.



As may be expected, a change to a twoplane intake came with substantially different jetting requirements. We tuned the Holley to optimize the air/fuel ratio for the new manifold configuration, and found a small drop in peak power, but a huge gain in torque through the low range and midrange.



We bolted on our new TCI Super Street-Fighter transmission and installed the 383 in the Roadkill show's Crop Duster '70 Plymouth using Schumacher Creative Service's engine swap bracket to mate with the slant-six K-member. We have to say, the fit with the low-deck engine was much better than with the RB 440—especially with power steering. On the track for the first time with the new combo, we ran an uncorrected 12.06, shifting at 7,000 rpm, in air approaching 4,000feet altitude density. We also identified some areas for improvement, such as an upgrade from the stock 5/16-inch fuel line supplying our mechanical fuel pump. With some minor tweaks and upgrades, solid 11-second timeslips should be very achievable from this 383 Duster.





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the bottom, recording 453 lb-ft at the rollin at 3,700 rpm, and working up to a peak of 473 lb-ft at 4,900 rpm.

With the great showing coming from the single-plane Victor manifold, we wondered how the versatile Performer RPM would compare. Generally, you can expect more mid- to low-range torque with a two-plane intake, but in this case the gains were dramatic. The RPM manifold showed a massive 480 lb-ft at the hit, a gain of nearly 30 lb-ft, and that torque advantage held strong right up to the torque peak of 490 lb-ft at 43-4,400 rpm. Peak horsepower took a small hit, however, with the engine now producing a maximum of 503 hp at 6,000 rpm. With the modest displacement of this little big-block, that big boost in torque lower in the rpm range seemed like a good trade for about 8 hp at the top.

Overall we were very pleased with the

383's dyno numbers, considering there was no custom porting work done to either the heads or manifold.

The 440 that was previously installed in the Roadkill show's Duster made nowhere near the torque of the 383 at any point of the rpm range

tested, and in fact, the 383 held an advantage in peak output of 70 hp and nearly 1.000 more usable rpm. We did slam the 383 engine into the Duster, and found the fit was much better than the old 440, with greatly improved header alignment and enough room for the power steering box. On its first track outing at the inaugural Drag Weekend, the Duster recorded a best quarter-mile e.t. of 12.06, uncorrected. With some improvements to the fuel system to solve a top end delivery issue, we are confident this small-block-sized big-block will put the car solidly into the 11s. Stay tuned for updates as we get there.

RPM:	RPM INTAKE:	VICTOR INTAKE:
3.700	480	453
3,800	480	454
3,900	481	456
4,000	483	460
4.100	485	464
4,200	488	468
4,300	490	472
4,400	490	473
4,500	488	473
4,600	486	473
4,700	484	473
4,800	482	475
4,900	480	475
5,000	478	475
5,100	476	474
5,200	474	473
5,300	471	472
5,400	467	469
5,500	464	467
5,600	461	464
5,700	458	461
5,800	454	457
5,900	448	452
6,000	441	446
6,100	433	439
6,200	424	433
6,300	415	426
6,400	407	419
6,500	399	410

"On its first track outing at the inaugural Drag Weekend. the Duster recorded a best

quarter-mile e.t.

of 12.06..."

RPM:         RPM INTAKE:         VICTOR INTAKE:           3,700         338         319           3,800         347         328           3,900         357         339           4,000         368         350           4,100         379         362           4,200         390         375           4,300         401         386           4,400         410         396           4,500         418         405           4,600         426         414           4,700         433         424           4,800         440         434           4,900         448         444           5,000         455         452           5,100         462         460           5,200         469         469           5,400         480         483           5,500         486         489           5,600         491         495           5,700         497         500           5,800         501         505           5,900         503         507           6,000         501         511	IM2LECTION				
3,700       338       319         3,800       347       328         3,900       357       339         4,000       368       350         4,100       379       362         4,200       390       375         4,300       401       386         4,400       410       396         4,500       418       405         4,600       426       414         4,700       433       424         4,800       440       434         4,900       448       444         5,000       455       452         5,100       462       460         5,200       469       469         5,300       475       476         5,400       480       483         5,500       486       489         5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       501 <t< th=""><th>RPM:</th><th></th><th>VICTOR</th></t<>	RPM:		VICTOR		
3,800       347       328         3,900       357       339         4,000       368       350         4,100       379       362         4,200       390       375         4,300       401       386         4,400       410       396         4,500       418       405         4,600       426       414         4,700       433       424         4,800       440       434         4,900       448       444         5,000       455       452         5,100       462       460         5,200       469       469         5,300       475       476         5,400       480       483         5,500       486       489         5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       511         6,300       498       511 <th></th> <th>INTAKE:</th> <th>INTAKE:</th>		INTAKE:	INTAKE:		
3,900       357       339         4,000       368       350         4,100       379       362         4,200       390       375         4,300       401       386         4,400       410       396         4,500       418       405         4,600       426       414         4,700       433       424         4,800       440       434         4,900       448       444         5,000       455       452         5,100       462       460         5,200       469       469         5,300       475       476         5,400       480       483         5,500       486       489         5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       501         6,300       498       511	3,700	338	319		
4,000       368       350         4,100       379       362         4,200       390       375         4,300       401       386         4,400       410       396         4,500       418       405         4,600       426       414         4,700       433       424         4,800       440       434         4,900       448       444         5,000       455       452         5,100       462       460         5,200       469       469         5,300       475       476         5,400       480       483         5,500       486       489         5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       501         6,300       498       511	3,800	347	328		
4,100       379       362         4,200       390       375         4,300       401       386         4,400       410       396         4,500       418       405         4,600       426       414         4,700       433       424         4,800       440       434         4,900       448       444         5,000       455       452         5,100       462       460         5,200       469       469         5,300       475       476         5,400       480       483         5,500       486       489         5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       501         6,300       498       511	3,900	357	339		
4,200       390       375         4,300       401       386         4,400       410       396         4,500       418       405         4,600       426       414         4,700       433       424         4,800       440       434         4,900       448       444         5,000       455       452         5,100       462       460         5,200       469       469         5,300       475       476         5,400       480       483         5,500       486       489         5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       501         6,300       498       511	4,000	368	350		
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4,800       440       434         4,900       448       444         5,000       455       452         5,100       462       460         5,200       469       469         5,300       475       476         5,400       480       483         5,500       486       489         5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       511         6,300       498       511	4,600	426	414		
4,900       448       444         5,000       455       452         5,100       462       460         5,200       469       469         5,300       475       476         5,400       480       483         5,500       486       489         5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       511         6,300       498       511	4,700	433	424		
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5,100       462       460         5,200       469       469         5,300       475       476         5,400       480       483         5,500       486       489         5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       511         6,300       498       511	4,900	448	444		
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5,300     475     476       5,400     480     483       5,500     486     489       5,600     491     495       5,700     497     500       5,800     501     505       5,900     503     507       6,000     503     510       6,100     502     510       6,200     501     511       6,300     498     511	5,100	462	460		
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5,500     486     489       5,600     491     495       5,700     497     500       5,800     501     505       5,900     503     510       6,100     502     510       6,200     501     511       6,300     498     511	5,300		476		
5,600       491       495         5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       511         6,300       498       511	5,400	480	483		
5,700       497       500         5,800       501       505         5,900       503       507         6,000       503       510         6,100       502       510         6,200       501       511         6,300       498       511					
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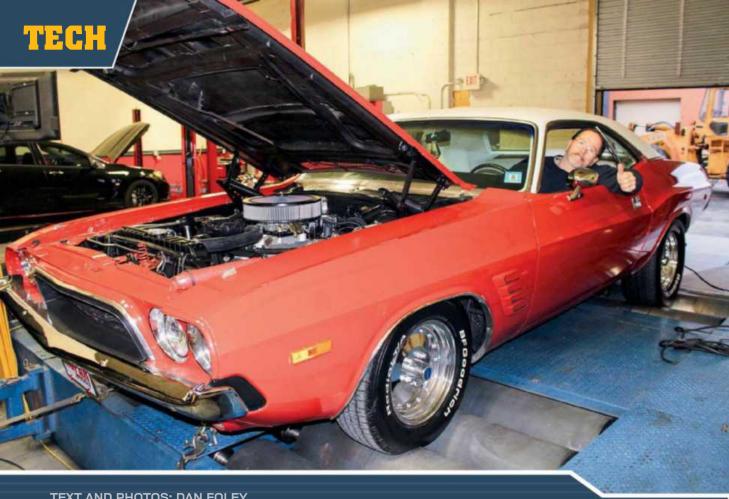




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the same motor is engine dyno tested and chassis dyno tested, a different tune is needed to produce the most efficient power. Once installed in the car, the vehicle's accessories, exhaust, and drivetrain will change the engine's state of tune. An engine dyno will help you tune for peak power at wide-open throttle with a safe air/fuel mixture ratio.

Commonly the engine dyno will use a dedicated carburetor, headers, and exhaust size that differs from yours. Plus, the engine dyno does not measure for lower rpm driveability issues. On the chassis dyno, you can cruise at different speeds and throttle openings while checking the air/fuel ratio (A/F) for that super tune. This makes the chassis dyno an excellent tuning tool to help you extract the most out of your street or race combo.

Before making our trek to Tune Time Performance (TTP) in Lakewood. New Jersey, to chassis dyno tune our '73 Dodge Challenger project named Slick Built, we decided to install a smaller Holley HP 750 carburetor. The smaller carb provided crisper street driving response than the large Holley Ultra HP 850 we've used in previous story installments (street tuning, engine, and chassis dyno testing). Our Challenger's LA stroker 340/416 showed us a stout 577 hp on the engine and 424 rear-wheel horsepower on the chassis dyno using the Holley Ultra HP 850. The power to the wheels sounds low compared to the engine dyno numbers, but TTP's Mustang Dynamometer will show 10 to 12 percent less power than other chassis dynos.

The only other change we made before dyno tuning was to advance the timing 2 degrees (36 degrees total) for better street driveability. As for the carb, in past testing a smaller carb will only show a small loss of 5 to 10 hp at peak. Still, we'll take that trade-off for better low-rpm street driveability. We armed ourselves with boxes of Holley tuning kits (jets, power valves, gaskets, air bleeds) and our trusty ol' timing light for our tuning session. The 45-minute ride to TTP will be beneficial to feel how our stroker was running before the dyno tune. After tuning, the ride home would be rewarding when we felt that newfound power! During the winter we'll install frame connectors so we don't twist the Challenger's unibody while strip-testing this coming spring. For now, follow along to see how we improve power, efficiency, and driveability by tuning for a lean and mean A/F mixture ratio.

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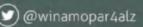
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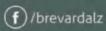
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Tuning an engine on an engine dyno will only get you so far. Once it's in the car, it will need adjustment to maximize the car's exhaust and carburetion. Our subject engine is a 416ci small-block with a Scat rotating assembly, homeported Edelbrock heads, RPM Air-Gap intake, COMP solid-roller cam (.620-inch lift, 248/254-at-.050), and Performance Distributors ignition.



Old-school tuning requires jets, air bleeds, power valves, gaskets, and pump shooters, to name a few. Aiding us are these four boxes of tuning supplies from Holley. Clockwise from bottom left to right: PN 36-240 air bleed assortment (high-speed), PN 36-182 tuning calibration kit, PN 36-181 jet assortment kit, and PN 36-240 air bleed assortment (idle/cruise). Other basic tuning tools needed are a vacuum gauge and a timing light.



On our baseline pull we were shocked that the engine started breaking up at 5,800 rpm in Fourth gear. We never experienced it in the lower gears when shifting at 6,500 rpm. The A/F ratio showed us a too-lean 13.5 to 13.8. Ideally, most tuners shoot for an A/F of 12.6 to 12.8. So far, the LA small-block and B/RB big-block engines I've tuned seem to like a 12.9 to 13.1 A/F to show the most power.

Venicle Test Inform	roley, daniel	Test Type:
License.	qq1973	Date/Time Run
Make/Model/Year	1973 dodge challenger	Print Resu
HP Curve Test Resul		and the last
Max Power.	406.5 @ 5737 1	104 MPH
with WCF	391.5	
Max Torque	387.1 @ 5176 /	94 MPH
with WCF	372.8	

We were disappointed to see only 406 rear-wheel horsepower at 5,700 rpm before it started breaking up. Previous testing of the QA1 carbon-fiber driveshaft showed 424 rear-wheel hp at 6,400 rpm using the Holley Ultra HP 850 and the total timing set at 34 degrees. We didn't think swapping to the smaller Holley 750 HP and advancing the timing to 36 degrees would hurt us.



To figure out our problem, first we broke out the timing light. Surprisingly, we found the timing moved to 42 degrees total. We found a loose lock nut for the adjustable timing knob on our Performance Distributors DUI distributor. This time we made sure we tightened the lock nut after setting the timing back to 34 degrees.



Owner:	foley, daniel	Test Type:
License:	qq1973	Date/Time Run
Make/Model/Year.	1973 dodge challenger	Print Resul
HP Curve Test Resul	10	
Max Power	421.1 @ 6044 /	110 MPH
with WCF	405.4	
Max Torque:	384.3 @ 5142 /	94 MPH
with WCF	370.1	MITTER STATE OF THE PARTY OF TH

At 34 degrees, power was up to to 421 hp at 6,000 rpm and it wasn't breaking up anymore. The A/F was better but still too lean at 13.4 to 13.5. Also, idle and cruise A/F was too lean at 14.7 to 15.0. Ideally, the idle/cruise A/F should be 14.0 to 14.5. Now it was time to reach into our boxes of Holley tuning supplies.

Roughly 10 years ago we lent this Holley 750 HP to a friend and were never informed about any jet changes. Removing the front bowl revealed the jets were swapped to a set of leaner 71s (stock size is 73). In the rear we found even leaner size 68



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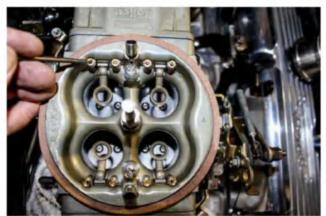
We square jetted the Holley HP carb with size 74 jets at all four corners. Both front and rear metering blocks were factoryequipped with number 65 power valves. The size 65 power valve means enrichment



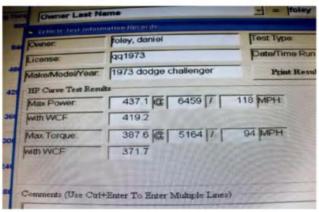
will happen at about 6.5 inches of vacuum. That size PV should be just right for our combo with 12 inches of vacuum at our 1,200 rpm idle. Holley recommends a power valve size that's roughly half the inches of idle vacuum.

Owner Last No	ame	- foley
- Vehicle Test Inform	nation Records	
Owner:	foley, daniel	Test Type:
License:	qq1973	Date/Time Run:
Make/Model/Year.	1973 dodge challenger	Print Results She
HP Curve Test Resul	ts	
Max Power:	431.7 @ 6199 /	113 MPH
with WCF	414.6	
Max Torque:	390.2 @ 5187 /	94 MPH
with WCF	374.8	

Swapping to the larger (richer) jets returned us 10 more hp at the rear tires, raising power to 431 hp at 6,200 rpm. Now the A/F looked good at 12.6 to 12.8 along with the idle/cruise A/F showing us 13.9 to 14.2.



We wanted the A/F mix to be a tad leaner, yet safe from detonation. For added protection from detonation, we mixed 2 gallons of 110-octane leaded race gas to a tank of 93 octane. Here we're pointing at an idle cruise air bleed. The idle/cruise are the four outer; the four inner are the high-speed air bleeds. We changed the idle/cruise and high-speed air bleeds to the larger/leaner size, from 73 to 75 and 35 to 37 respectively.



We were stoked to find another 6 horses at the wheels, now 437 hp at 6,400 rpm. The A/F was showing 12.9 to 13.0 during the pull. Cruising on the dyno revealed the A/F was at an efficient 14.2 to 14.4. At that we felt it was a productive day on the dyno making 31 more hp than the baseline. On that 45-minute ride home, we felt the rewards of our tuning efforts!



Looking at the graph notice how badly the engine was breaking up at high rpm (over 5,800). Once the timing and fuel mixture was set for a safe A/F, our LA small-block stroker engine screamed to 6,500 rpm effortlessly.



A few weeks after dyno tuning, we noticed the nice grey color inside the TTi exhaust tips. That told us the Slick Built small-block was running lean and mean. When the exhaust is brown or black, that's a sign of an engine that is running pig-rich and it is not an efficient power producer.

#### SOURCES

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**TEXT AND PHOTOS: JOHNNY HUNKINS** 

# THE BIG COVER-UP

WE ADD A DUAL-SNORKEL HOODSCOOP TO THE VALIANT, AND HOPE WE DON'T RAISE TOO MUCH SUSPICION ON THE STREET!

something about a stock flat hood on a scary fast street car that puts a smile on our face. The flat-hood look preserves the car's stock proportions, but more importantly, it sends the signal that nothing very important is going on below deck. A fast car with a flat hood will catch the competition napping, and while it might not always be the fastest car on the street, it damn sure will be the most surprising.

We've always wanted a flat hood for our '68 Plymouth Valiant, but despite our best effort, hiding a 500-inch Indy Wedge with dual-quad induction below the stock bonnet proved impossible. Running the fat block with no air filter would've technically made it possible, but the rapid engine wear this would've created would be mechanical suicide. Instead, we caved in and cut a hole in the hood for an Edelbrock dual-quad air cleaner. Bye-bye, flathood dreams ...

We moved on to improve other areas of the car, vowing to fix the hillbilly hood hole later on. In the meantime, we searched for options, looked to see what others had done, and asked for opinions. In the Mopar world, there are lots

of choices, with various stock and modified versions of Max Wedge, Six-Pack, and Hemi hoodscoops available. Since there never was a high-performance version of the Valiant to draw inspiration from, we were at a fork in the road—either do something appropriate for 1968, or do

something appropriate for a Duster, the logical successor to the Valiant.

In the end, we chose a dual-snorkel Duster-style scoop from Stinger Fiberglass. The reality is, the body lines of a '67-'69 Valiant are identical to a '70 Duster up to the B-pillar door post, and the dualsnorkel hood is the least intrusive of all the choices. In speaking with Stinger, we managed to convince them to build a product they didn't yet offer. Stinger's existing bolt-on Duster dual-snorkel scoop is contoured to fit a peaked hood, while the Valiant has a recessed channel in the middle. Stinger owner Artie Schricker liked the idea of a Valiant-specific version and agreed to mold one to fit the Valiant's recessed hood contour using a Valiant hood they already had.

Once our scoop arrived, we unboxed it and set it on our Valiant's hood. We noticed two things: The build quality on it was superb with the Valiant center channel properly filled, and the dual-snorkel's lines were going to nicely complement the Valiant's shape. Unfortunately, we also noticed that even with the scoop, our super-tall Edelbrock air cleaner was still going to interfere. The tall Indy Mod Man intake, deep-breathing dual-quad Edelbrocks, and ample dual-quad air cleaner was indeed a formidable combination to mask from public eye, but we were determined. A taller Hemi or Six-Pack scoop would certainly work visually and clearance-wise, but the smaller, shorter dualsnorkel scoop looked so good, we decided to figure out a work-around for the air cleaner.

A close-up look at the Edelbrock air cleaner and a bunch of measurements later, we calculated that we needed the



Our first fork in the road came the fall of 2014: Do we discard the Indy Mod Man intake and dual-quad Edelbrock carbs, and put a less-potent, shorter induction setup on, or cut a hole in the hood and let it all hang out redneck style? You see what we chose!







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top of the air cleaner lid to be 1.25 inches lower for it to safely clear the dual-snorkel hood. As it so happens, we had Aaron Bedrosian, a good Mopar buddy with a machine shop (Hitech Products in Canoga Park, California), who you might remember as building the '39 Willys gasser on our March '16 cover. Aaron took the base and lid of the Edelbrock dual-quad air cleaner to his Bridgeport and machined the cast-in ribs off the lid and 3/8 inch off the bottom of the base, then mediablasted the top. The finished piece looked stock and cleared the throttle linkage with an 1/8 inch to spare. Kudos to Aaron for helping a fellow Moparite out!

Since we are still a year or three away from a full-on paintjob for the Valiant, yet we still wanted the scoop to match the rest of



After some searching, we selected a bolt-on dual-snorkel hoodscoop from Stinger Fiberglass for \$325. Out of the box, we discovered it still wasn't tall enough to cover the huge big-block and its Edelbrock Classic Series dual-quad air cleaner kit (#41199).





Rather than give up on the cool Duster-style scoop, we decided to do surgery on the air cleaner base and lid. In these before-and-after shots, you can see how the cast ribs and Edelbrock script on the air lid stood too proud before being machined flat.

the car in the short term, we needed an easy paint solution for the scoop that didn't cost bank. Right about that time, we heard of a new company in Louisiana called AutomotiveTouchUp. com (ATU). ATU has built a neat little boutique business around mixing custom micro batches of urethane enamel aerosol spray paint in 12-ounce cans, and their forte is matching factory paint codes. (Their website pushes a two-stage color basecoat/ clearcoat strategy, but they also do high-gloss single-stage paint by request, which is what we wanted to better match our





The air cleaner base before and after: Notice again how much space there was between the carb linkage and the bottom of the lid. In milling the air cleaner base 3/8 of an inch, it was critical not to cut too much and create interference with the carb linkage—a potential safety issue.



In lowering the air cleaner, the lid (which is wider than the air cleaner by a quarter inch) came into direct interference with the edge of the hood during episodes of engine torque, so it was widened.

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65 FOLIAGE DRIVE N. KINGSTOWN, RI 02852 TEL. 401-267-0055 WWW.INSTRUMENT-SPECIALTIES.COM pre-1980 car.) We figured we had nothing to lose—at the worst we'd have to live with a minor color mismatch for three years. We called them up, gave them the SS1 Sunfire Yellow code off our body tag, and a couple weeks later we got four 12-ounce cans of high-gloss single-stage enamel at \$19.95 each. We also ordered a variety pack of wet-sand abrasives, a flexible sanding block, a handy spray can trigger, and four cans of build primer at \$7.95 each. Our total bill for paint supplies from ATU: \$123.45. That's slightly less expensive than dropping the scoop off at a body shop, but we'd also planned to have some extra touch-up paint for the doorjamb repair we've got coming up.

At this point, things were ready to rock; mark the hood for drilling the holes (the Stinger hood already has threaded studs built-in), test-fit the scoop, scuff it, prime it, sand it, then shoot it with single-stage color. All this can be done in your home garage in half a day, but the need to capture photos and video footage meant your author needed some help to document it all. When we approached Motech Performance in Murrieta, California, to help us, their response was understandable. ("Sorry, but we don't do spray-paint jobs!") Motech is the real deal, so their help was

We went the bolt-on route with the Stinger dual-snorkel scoop, which means creating a series of holes in the hood. Set the scoop on the hood in its final position, mark the stud positions with a Sharpie, drill small pilot holes, then use a 3/8-inch hole saw to cut the holes (shown). The idea here is to not cut all the way through the underlying support.



From under the hood, use a ¾-inch hole saw to cut the support structure holes. We chose this size so that a socket could fit comfortably inside. Some of the hoodscoop fasteners will need this while others won't—it will depend on your hood, your engine, and the location of your scoop.

only secured with the promise that we tell you they do not do this kind of work!

Still, the scoffing and undisguised contempt for the ATU spray paint in the morning eventually turned into begrudged admiration—if not praise—by lunchtime when the color coat was drying. No, Motech isn't going to paint a Mopar with spray paint anytime soon, but they were surprised how well it matched our 20-year-old acrylic enamel repaint. All agreed that the slight color variance seen was a product of the earlier el cheapo repaint, not the ATU paint.

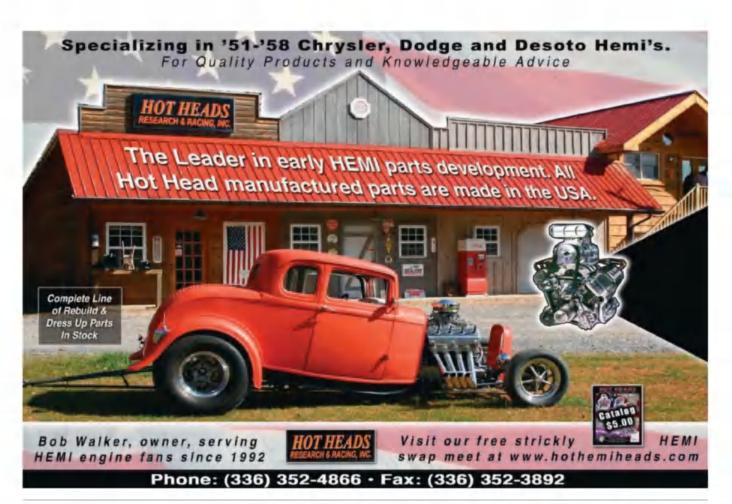
We rolled video as the scoop was bolted in place the final time, and wondered if the dual snorkel would pass the sniff test. It kind of looks like grandma's Valiant mated with a small-block Duster (original snorkel hoods strictly fed small-blocks). A Hemi or Max Wedge scoop would certainly arouse more suspicion, with a Six-Pack scoop eliciting almost as much scrutiny. Yes, the dual snorkel hood will raise a few eyebrows, but we think it maintains much of the ubiquity of the stock hood. They'll suspect a breathed-on small-block, not a 650hp Wedge. Mission accomplished!



Using some flat washers from the bottom, we bolted the hood to the Valiant for the first time to check the fit and overall presentation. We still needed to check the air cleaner clearance, and barring any problems, lay on some color.



Our hard work massaging the Edelbrock dual-quad air cleaner paid off as we had a quarter inch to spare. We'd love it if Edelbrock would build a low-profile version of their 41199 kit for situations like this. All the other air cleaner solutions we found didn't have enough filter height, filter circumference, or overall surface area to support our power level.





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Although our Stinger scoop came in a smooth gelcoat primer, we decided to scuff it up for better adhesion for the build primer and color coat that was to come. AutomotiveTouchUp.com (ATU) sent us a multi-pack of abrasives and a rubber sanding block to do the job right. Some 320-grit dry paper gave us the bite we needed for the primer coat.

Motech's head body shop guy, Casey, is not a spray can fan, but the ATU stuff sprayed out beautifully, thanks to a flat fan spray nozzle and the ergonomic gun trigger. One criticism we had of the ATU primer is that although it's billed as such, it's not really a high-build primer, which would be far better for filling in the imperfections of a fiberglass piece like this. We did eventually get enough primer on.





This doesn't show it as good as the video, but the ATU nozzle has a nice wide fan spray pattern. After a slight fog coat over the sanded primer, Casey laid two full coats of Sunfire Yellow, the last one as heavy as possible to maximize the gloss. (A heat gun aided this effort as well.) We did not want to wet sand the finished product.

#### SOURCES

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Considering our Valiant is a main street mauler, not a car show baller, it looks pretty good now with the painted scoop. The casual observer can't notice any color difference, but most people who know Mopars say the ATU spray paint is closer to the OE Sunfire Yellow color than our car's 20-yearold repaint. Based on the result, we'd certainly do it again. The Stinger Fiberglass scoop adds to the car without looking goofy or calling too much attention to itself.



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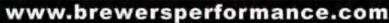
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THE MOPARS OF SEMA

BY JOHNNY HUNKINS OF PHOTOGRAPHY BY THE AUTHOR

SEMA was buzzing with Mopar excitement! The TV show Chop, Cut, Rebuild was filming part of an episode where they taped a '70 'Cuda being vinyl wrapped in the Auto Metal Direct booth. The crowd was huge!

> as Vegas is a wonderful place to visit even on a bad day. It's just impossible to have a bad time there. Add in the SEMA Trade Showthe annual get-together where all your favorite aftermarket performance manufacturers show their new wares to retailers, distributors, and the media—and you've got something that approaches nirvana. If there's one downside, it's that the general public is not admitted. That's not such a bummer after all as it turns out there's a lot of floor space to cover. We typically walk hundreds of miles the week of SEMA-OK, maybe not quite that much, but it's still a lot. Here's all the coolest Mopar-motivated machinery we saw that we can fit in three magazine pages!

# OUR 20 FAVORITE CHRYCO-POWERED MACHINES FROM THE 2015 LAS VEGAS SEMA SHOW!



Speaking of TV shows, Gas Monkey Garage had their Hellcat-powered '67 Dodge Dart displayed in the Diablosport booth. This piece is a legit 10-second performer that uses most of the Hellcat driveline.

The big buzz around the Chrysler booth was the allwheel-drive Challenger GT. It's powered by a 5.7L Hemi and sports all-wheel drive, and aggressive body treatments, including gorgeous fender flairs front and rear. And check out those extrasexy deep-dish wheels.







It's not a Hellcat, but you're close! Mr. Norm



takes ordinary Scat Pack 392 Challengers, installs a Kenne-Bell supercharger kit, and re-bodies them with Hellcat bodywork, giving them special Hurst graphics and wheels in the process.



We found this restored '70 Plymouth Superbird done up in Petty NASCAR livery in the hallway between the north and central halls. It was a giant magnet for Mopar fans.



The Mopar aftermarket division showed their latest race-only NHRA Super Stocker designed to hunt down late-model Cobra Get Mustangs and COPO Camaros. We weren't allowed to open the hood, but scuttlebutt is it's got a supercharger kit on top of a 5.7L Hemi.



You don't hear much about them because they're based in Australia, but Sprintex has a pretty cool blower kit for the 3.8L Pentastar V-6 engine. They now have an intercooled kit and a compressor with

coated rotors that makes over 500 hp to the flywheel.
That's Scat Pack territory!



This '62 Dodge Dart Max Wedge Super Stock racer showed everybody where it all began for Dodge! It was displayed in the Derale booth.



Hot Rod beat us to this one for a feature—it's Troy Trepanier's new '71 Plymouth 'Cuda convertible. As cool as that was, he brought something even cooler ...





This is
Trepanier's
craziest Chrysler
creation yet—a
seductively stocklooking '66
Belvedere. And
that Hemi? It's
not only fuel-

injected, but boosted with twin turbos mounted behind the rear axle. (Can you spot the hidden plumbing?) And those factory-appearing steel wheels? They're actually billet aluminum 18 inchers designed to look like stamped steel. For the rest of the details you'll have to look in *Hot Rod* magazine!





In an effort designed at least as much to piss off every Mopar and Buick guy on the planet, Steve Strope of Pure Vision brought out his half-completed

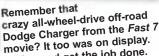
late-'60s-Funny-Car-for-the-street concept.

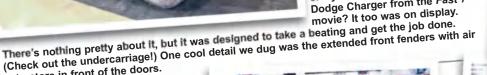
Strope built it with a period-correct Logghestyle suspension, a stretched wheelbase, vintage magnesium Halibrands, and a blown Hemi
with a magneto and zoomie headers. Strope
plans on driving it on the street too. The haters
already voted it down on Facebook—so we will
not be featuring it in Mopar Muscle! It's still
cool though.

THE MOPARS OF SEMA











extractors in front of the doors.







To be honest, we have no idea what company brought out or built this latemodel Challenger. We don't even know if it's got a Hemi, but we do know it's from Japan. Two clues: The rising sun flags on the sides and front, and the Liberty-Walk (a Japanese company) body kit. Can we get a "wup-wup" for Mopars from Japan?!

The horsepower nuts at the AMSOIL booth came packing Mopar heat as well, with this '07 Dodge Charger R/T. The 5.7L Hemi was wired for monster amounts of nitrous, and you better believe every ounce of lube in this LX carried the maximum protection afforded by AMSOIL lubricants.

This blacked-out edition of the '15 Dodge Charger R/T was making waves at the Mopar booth. The graphics take advantage of the R/T's unique grille, which is different than the Scat Pack and Hellcat version. The Mopar Performance catalog was thrown at this baby!





We've covered various aspects of Detroit Speed & Engineering's May/Hem Dodge Charger during its build over the last year, so you know some of the awesome fabrication chops these guys put into it. We've got a big wrap-up feature on it coming soon, but here's how it looked as it debuted at the SEMA



Our May 2016 cover car was discovered at SEMA at the Ron Francis Wiring booth in Hot Rod Alley. It successfully

answers the question "What could the average guy build in his own garage that is both affordable and that will drop jaws everywhere it goes?" Geoff Gates' street fighter Dart looks like a million bucks, but this A-Body's bolt-on suspension and modest small-block make it very obtainable.



Jeep showed this impressive Wrangler-based Wagoneer throwback with period-correct slot mags and sporting a chopped roof. If we didn't know better, we'd think it was a real old-school Wagoneer. Just check out the vintage-style Gladiator grille. It looks production ready—we'll take one!



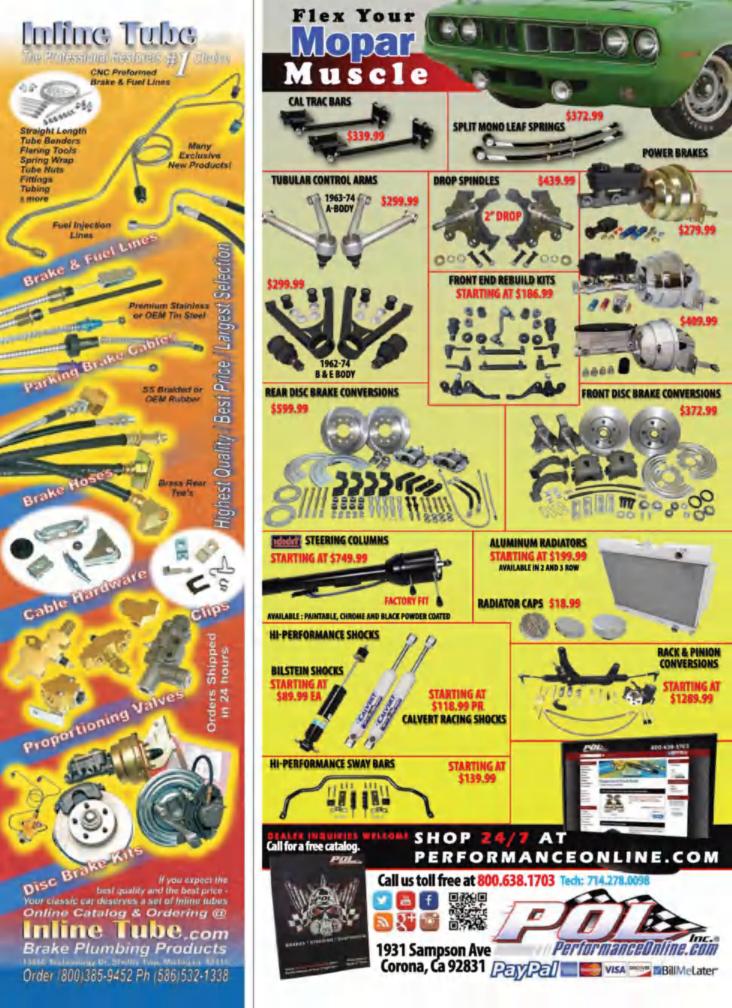


At this point, we have to settle some confusion: The DSE May/Hem '69

Charger was designed and started first, and the Roadkill General Mayhem '69 Charger (shown here) was pounded together fairly recently without prior knowledge of the DSE May/Hem Charger. DSE's May/Hem is powered by a blown Arrington-built 426ci Gen III Hemi that puts out 664 hp while Roadkill's General Mayhem has a 6.2L Hellcat engine with 707 hp.



Even the import wheel companies were hoping some of Dodge's late-model magic would rub off on them at SEMA. Here, the Giovanna Wheels booth featured a titanium-wrapped Hellcat Challenger with some of their wheels.





# SCAT PACK CHALLENGE

#### AMERICA'S BEST PERFORMANCE VALUE NOW HAS A PLACE TO RACE. BETTER START PACKING YOUR BAGS FOR LAS VEGAS!

BY JOHNNY HUNKINS 🗘 PHOTOGRAPHY BY THE AUTHOR

ith the Hellcat getting all the attention in the Chrysler family, the amazing 392 Scat Pack Challenger and Charger have been flying under the radar as the biggest performance value in the Dodge lineup. If you look at the overall performance of the 6.4L Scat Pack versus the cost of entry, it's easy to see why the little bumblebee has been so popular with both traditional Mopar fans and conquest buyers.

The performance on the 392 Scat Pack is phenomenal, with quarter-mile e.t.'s dipping well into the 12s in the quarter-mile with stock tires. With a starting price under \$40K, that's astounding. Even better, the Apache 392 Hemi responds well to simple mods like exhaust, tuning, coldair kits, superchargers, and cam swaps. These cars are just a tire swap and a few bolt-ons away from the 11s. A little more

massaging to the engine and you're into Hellcat territory—only you've got a bunch more cash left in your pocket.

So here's where we pose the question: How fast is your Scat Pack? We want to know, and so does the rest of the Mopar world. We're searching for the fastest street-legal 392 Scat Pack Challengers and Chargers in the land, and we're inviting them take part in the first-ever Scat Pack Challenge at Mopars at the Strip. Specifically, we'll be running them in a heads-up trophy eliminator in Las Vegas on March 18-20, 2016. (For more information, visit www.matslv.com.)

Here's the deal: All you have to do is show up to Mopars at the Strip with your 2015 or 2016 Scat Pack 392 and pay the standard weekend bracket race entry. Any mods you do are OK, as long as the car is licensed, registered,

insured, and street legal. Any type of tire is OK, and all racing will be heads-up with no handicap. The winner gets a nice trophy, and the crown of fastest street-legal Scat Pack in the country. And the best part? We plan on putting the winning Scat Pack on the cover of *Mopar Muscle* magazine with a full feature inside.

Don't think your car is modified enough to win? We still need your participation. We'll be shooting every participant's car and interviewing them for *Mopar Muscle*'s Scat Pack round-up story. We want you to tell us what tricks and tips you've learned, no matter how inexpensive or simple. Who knows, you might end up with your own full feature in the magazine, because it's not always about being the fastest. Sometimes the interesting story is about how few mods you have, your driving technique, or your ingenuity.





The event we all know as Mopars at the Strip—also called MATS—is headed to Las Vegas again on March 18-20, 2016. We'll be there covering the action, but more importantly, we'll be holding our Scat Pack Challenge!





The Scat Pack Bumble
Bee is the emblem all
Mustang and Camaro
guys are beginning to
look for before picking
a fight on the street!
They already know better
about the Helicat.

Last year, MATS held the Hellcat Challenge for all Hellcat owners, but due to so few cars being produced, there just weren't that many in attendance. Scat Pack 392s, on the other hand, were made in far greater abundance.



The Scat Pack's 392-inch Hemi is good for 485 hp, and is wide open for more, thanks to lots of bolt-ons from companies like Diablosport, TTi, Kenne Bell, ProCharger, and others. Have you tried them yet? We'd like to know.



**EVENT | SCAT PACK CHALLENGE** 

Speaking of Hellcats, we're also holding the Hellcat Challenge for the fastest street-legal 'cats around. Bring it and you could win the title—and a spot on the cover of Mopar Muscle magazine!



And you Hellcat guys? We haven't forgotten about you. We know lots of you have pushed your machines well into the 10- and 9-second club. With 707 hp as a starting point, these supercharged, intercooled Hemis have a lot more left in them. We know you're unlocking that hidden horsepower with more boost, nitrous, and even turbos. Never before in history has so much power been available to the masses. For that reason, we're also holding the Hellcat Challenge, for all licensed, registered, street-legal Hellcat-powered machinery.

See you in Las Vegas!



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Scat Pack 392 machines are made in two flavors—Challenger R/T and Charger R/T, like this one piloted at last year's MATS by Elana Scherr of Hot Rod magazine. Totally stock, it went 12.80s with the OE tires. We've since gone 12.0s with a lightly modded Scat Pack Challenger auto and stock tires.

2008-14 Dodge Challenger P/N 36965S 2004-14 Dodge Charger 2004-08 Dodge Magnum P/N 36965S

**2004-14 6.1/6.4L Engines** P/N 36965SY 2004-14 5.7L Engines P/N 36965SY

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# STREET



eird things can happen when you try to be different. As a species (i.e. humans) hard-wired for conformity, straying from convention merely for the sake of being unconventional often results in even more conformity. Think back to high school. There wasn't just one goth kid, there was a whole bunch of them. Better yet, by urging everyone to "think different," Apple inspired flocks of sheep to buy iPhones and iPads just like all the other sheep around them. Why yes, camping out at the Apple store is such a novel concept that thousands of freaks come up with the exact same idea with each new iPhone release. Can you say "think same?" Given humanity's penchant for sameness, when something as different as Geoff Gates' '67 Dart comes along, it completely shatters our perception of what is and isn't cool into tiny pieces, then reassembles them into a much more interesting configuration. Evidently, mega-dollar Hemis and mega-diameter wheels are no match for some well-executed minimalism.

What made Pro Touring so cool in the early days is that no one was trying to invent a trend. Pioneers like Mark Stielow and R.J. Gottlieb wanted to stomp European exotic cars on road courses and at open road racing events,

so they built their cars accordingly. First and foremost, Pro Touring was all about functionality, as the practical benefits of modernizing the handling, braking, and driveability of old-school Detroit iron struck a chord with the public. Slowly but surely, as bigger stacks of cash infiltrated the movement, the burning desire to be different spawned a new crop of machines that prioritized over-the-top aesthetics over functionality.

# WHO SAYS YOU NEED BIG-BLOCKS AND BIG BUCKS TO BUILD A COOL CARP ALL IT TAKES IS SOME CREATIVE VISION TO BUILD A BADASS, BACK-TO-BASICS MOPAR.

This type of substance-free embellishment didn't sit too well with Geoff, who knew there had to be a simpler way of doing things. "The whole wheel thing has gotten out of hand. Everyone is going bigger and flashier, but I always thought that the Chrysler cop car wheels were so cool because they just look tough," he opines.

"The simple, steel wheels buck the trend of the big, flashy, overdone build themes that are so common today, so I stuck with the theme of keeping everything simple and understated throughout the entire build of my car. The whole build started with the wheels, and the idea for the stance and attitude followed that concept. I wanted the

car to look like something Dodge would have built in the '70s if the handcuffs were off, and the bean counters let them build whatever they wanted to build."

The sinuous path that ultimately led to the Dart's construction started at the family body shop, made pit stops at art school and high-profile advertising agencies, then

#### STREET FIGHTER

finally culminated in a 180-degree career change that led to the birth of Alloy Motors in Oakland, California. "I grew up working on cars at my dad's body shop, and I swore that I'd never work on cars for a living. I vowed to do something bigger and better, so I went to art school, became a graphic designer, and worked as an art director at ad agencies for 15 years," Geoff recalls. "However, my passion for building hot rods kept pulling me back into the hobby over the years. I loved going to shows, reading magazines, and helping my buddies work on their cars. They kept saying 'hey, you're really good at this, maybe you should do it for a living.' Four years ago, I took their advice, quit my corporate job, and started up Alloy Motors."

Like many artists, Geoff marches to the beat of his own drum. When his natural inclination for nonconformity crossed paths with a deal he couldn't pass up, the street fighter '67 Dart project officially commenced. "My tow truck guy told me about a Dart he had for sale, and I tend to like oddball cars. The car was in pieces, half the paint was stripped off, and it had a dolly welded on the front instead of a K-member, but I liked the idea of building something cool out of a platform that was cheaper and more plentiful than the typical muscle car," Geoff explains. "I can only handle seeing so many '32 Fords, Tri-Five Chevys, and '69 Camaros. Those cars have been beaten to death. On the other hand. Darts have always been under-appreciated, even for Mopars. Everyone wants a Challenger, 'Cuda, or Charger, but those cars are very hard to find. I think that any car can be cool if you treat it right, and although there aren't many Darts built to a high level right now, they're definitely making a comeback."

Years of neglect notwithstanding, the mild West Coast climate had spared the Dart from any serious rust damage. The quarter-panels needed some attention, but otherwise the body was solid. To maintain the less-is-more vibe, body mods were limited to tucking in the bumpers and grafting custom heat extractors onto the GTS hood. Although the need to keep things simple also applied to the chassis. Geoff was confident that it didn't require sacrificing performance. "My philosophy is to retain the good parts of a car that are already there, and build the rest of the car around them. There are a lot of very nice suspension parts out there for these cars like aftermarket K-members and complete chassis, but I wanted to go simpler," Geoff says. "For a street-driven car, the Hotchkis TVS bolt-on suspension kits offer great bang for the buck. Hotchkis has put a tremendous





A custom aluminum dash panel houses a Racepak instrument cluster, A/C controls, light switches, and starter button. The stock center console has been re-skinned in aluminum, and features a custom cover for the Hurst Pistol Grip shifter. Aluminum floormats and package tray maintain a consistent aesthetic theme throughout the cabin.













Under the hood there's no clutter, just business. The satin air cleaner and valve covers perfectly contrast the blacked-out engine bay, brackets, and accessories. Geoff wanted the engine to pop like a jewel in a black velvet box.



To create custom heat extractors, Geoff cut openings into the AMD GTS hood with a holesaw, then elongated them with a body saw. After finishing them up with a file, he cut custom trim for the openings on Alloy Motors' CNC machine.







amount of R&D and testing into developing their product, and the Dart now handles extremely well compared to stock."

Granted that horsepower is cheaper today than ever before, Geoff stuck with his guns and resisted the urge to get greedy. "Under the hood is a 360 small-block because that's what came with the car. We treated it to a set of cylinder heads, an intake manifold, and a carburetor from Edelbrock as well as COMP Cams rockers, Sanderson headers, and an MSD ignition," Geoff explains. "It's certainly not a powerhouse, but in this lightweight combination it feels fast, sounds great, and is a blast to drive. You don't need to have 1,000 hp to have fun. In a 2,800-pound car, 400 hp is plenty."

Ultimately, taking the minimalist approach to building cars isn't only about making a statement in a world where over-the-top builds are now the norm. The less-is-more approach flat-out gets the job done on the open road. "The finished product isn't just a blackedout Dart with a laser-straight paintjob. Dig a little deeper, and it's all the subtle details that you notice," Geoff says. In this A-Body, many of those subtle details are most noticeable from behind the wheel. "Through canyons and coastal twisties, I find myself pushing guys in expensive sports cars, wondering why they can't turn better. The manual steering makes parking a chore, but it offers awesome road feel. The combination of Wilwood front discs and stock rear drums stop the car very well, and they just barely fit behind the 15-inch steelies."



A true testament to how resoundingly the Dart's message resonates with the masses, it appeals to the diametrically opposed demographic of blue-collar Oakland and hipster San Francisco in vastly different ways. "In Oakland, people will run up to you at a stop light, tell you how cool the car is, then tell you how their aunt or friend had a car just like it," Geoff reports. "In San Francisco, it's a completely different vibe. They stare at it like it's a rolling piece of art, and it's as if they've never seen anything like it before. People will pass me on the road, slow down, then do a double-take. I think that because of my art background. I have a different eve for building cars. There are lots of phenomenal craftsman out there, but craftsmanship will only get you so far when you want to build something different."

Instead of trying to be different merely for the sake of being different. Geoff built the Dart with a greater purpose in mind. Maybe that's why it doesn't just try to be different, it actually is different. "The focus here was on elevating a car that is underappreciated, and taking the risk to build a car of this level on a platform that doesn't have the reputation for attracting high-dollar builds," Geoff explains. "It's not overdone in either the parts bolted to it or in execution. It doesn't scream 'look at me,' but when you do, it goes on and on with little details that set it apart from the pack. This is a car that your average car guy could build himself with enough patience and attention to detail."

Less is more isn't always a worn-out cliché. Sometimes it actually makes sense.

#### FAST FACTS

**1967 DODGE DART**CAR OWNER: Geoffrey Gates, 40 • Oakland, CA

#### **ENGINE**

TYPE: Chrysler 365ci small-block

**BLOCK:** factory 360 block, bored to 4.030 inches

**OILING:** Melling pump, stock pan

**ROTATING ASSEMBLY:** stock crank and rods, JE 10.0:1 forged pistons

**CYLINDER HEADS:** Edelbrock Performer RPM aluminum castings with 2.02-/1.60-inch valves

CAMSHAFT: Edelbrock 234/244-at-.050 hydraulic flat-tappet; .488-/.510-inch lift; 112-degree LSA

**VALVETRAIN:** Edelbrock lifters and timing set; COMP Cams rocker arms

INDUCTION: Edelbrock Performer RPM intake manifold and 650-cfm carb

IGNITION: MSD billet distributor, coil, and plug

**EXHAUST:** Sanderson headers, dual 2.5-inch Gibson mufflers

COOLING SYSTEM: Mopar Performance water

#### pump, Griffin radiator, Flex-a-lite fan DRIVETRAIN

**TRANSMISSION:** B&M 727 automatic and 2,300-stall converter; Hurst shifter

**REAR AXLE:** Chrysler 8.75-inch rearend with Moser 31-spline axles, 3.73:1 gears, and Auburn limited-slip differential

#### CHASSIS

**FRONT SUSPENSION:** Hotchkis upper control arms, shocks, strut rods, steering rods, and Pitman arm; factory big-block torsion bars and '73 A-Body spindles

**REAR SUSPENSION:** Hotchkis leaf springs and shocks

**BRAKES:** Wilwood discs, front; stock drums, rear

#### **WHEELS & TIRES**

WHEELS: 15x7 and 15x8 rear Chrysler cop car

**TIRES:** 205/65R15 Goodyear Eagle, front; 255/60R15 Mickey Thompson ET Street radials, rear



Mickey Thompson drag radials transform the Dart into a hard-launching machine on the street. Hotchkis leaf springs provide the perfect amount of drop.

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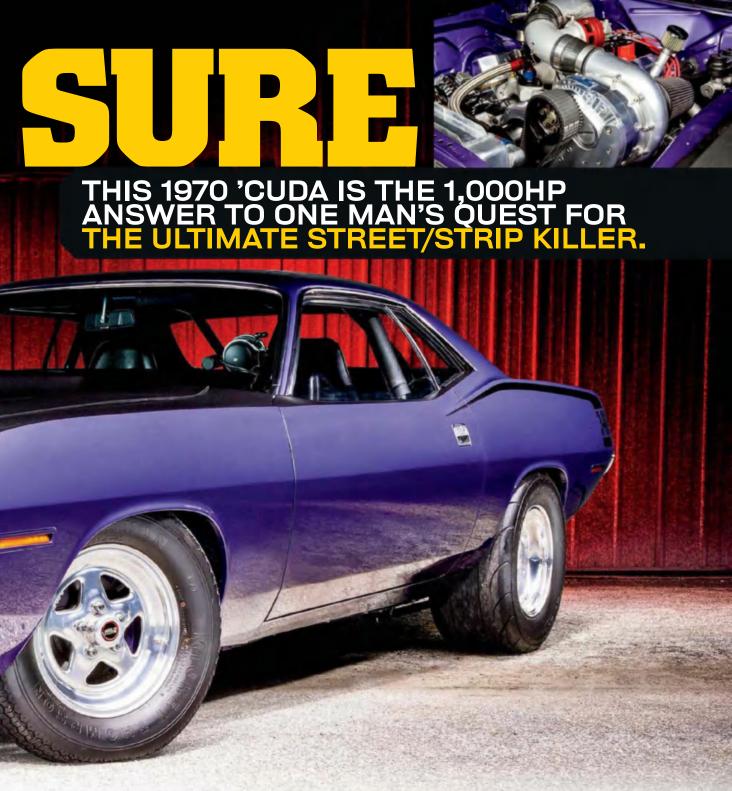


#### BY BRIAN LOHNES 🗘 PHOTOGRAPHY BY JOHN MACHAQUIERO

utomotive fun comes in many forms. Lots of people like to load their race car onto a trailer, haul it all over creation, tow it home, and then head off down the road to do the same thing the next weekend. For years Peter Romano of West Grove, Pennsylvania, was that guy. Yeah, he had a cruiser for the street, but his kicks came on the dragstrip with a few different cars over the years. See, the fast stuff wasn't

street legal, and the street-legal stuff wasn't that fast. Romano needed a solution, and today's world of modern hot rodding provided him with some good choices. As you'll see, he has employed many of them in the completion of this spectacular '70 Plymouth 'Cuda, with its blown 434ci small-block that cranks out four-digit horsepower.

Having owned a number of cars over the years from many different brands, Romano has always been a Chrysler guy at his core. A '68 Charger, a '70 Road Runner, and a '72 'Cuda have carried him through spans of his gearhead life and Romano knew he wanted back into an E-Body. He had goals going into the process: "I really wanted to find a car that did not need a complete rebuild to start with," Peter told us. "I wanted a solid car to start with that I could finish the way I wanted it and when I found this car for sale that had just been through a rotisserie-style body restoration and that was in great shape,



I knew it was the right car to start with." When Romano received the car it was already a pretty proven commodity when it came to the speed department. The previous owner had run it down into the 9.60s at 140 mph so the chassis and that end of things were totally in order. It was the horsepower that proved complicated.

"I got an idea in my head that I wanted 1,000 hp, and so I started reading and researching a lot of different options," Romano said. "I was leaning toward a

traditional Roots-style blower and the more I went down that road, it just didn't seem like it was going to be what I wanted it to be so I considered other options." The other option he chose was a Pro-Charger. These centrifugal blowers provide users more—and some would say better—options on managing heat and boost than their intake manifold-style cousins. Romano was also adamant about sticking with a carb and not leaping to EFI. Blow-through carbs have been a proven

commodity for decades but that doesn't mean that everyone is exactly conversant on them and that is where Romano's 1,000hp dream began to stretch itself out a little. Problems with an initial carb and a tuner who was not comfortable really giving the engine any oats on the dyno resulted in what could only be described as disappointing numbers for Romano.

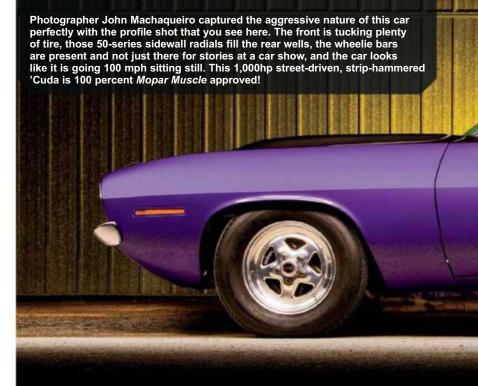
After being pitched yet another EFI conversion for money he didn't have or want to spend, Romano was pretty crestfallen.

#### THE PLEASURE SEEKER

His proverbial white knight arrived in the form of a shop in Delaware known (ironically) as Performance Injection Equipment. This Mopar-specific shop delivered the goods for Romano with a speed, swiftness, and confidence no one had before. "I dropped the car off to those guys, and they called me a short time later and told me it was all set," Romano told us with a laugh. "They were great and without them this thing may still not be where it should be power-wise. It was only October of 2015 when the car was dyno'd and finally cruised in public because of all the delays that had occurred in the build process. That being said, the payoff for all the previous delays was a swift delivery, and it was pretty cool.

Since we have been blabbering so much about the engine, you're dying to know the nitty-gritty. The engine is a 434ci stroker based off of a Chrysler 340X block. The crank is a Mopar Performance 4-inch piece, and it is swinging some Eagle H-beam rods and Wiseco pistons to the tune of 8.8:1 compression. As you already know, the reason for the low compression is that this engine is being force-fed by a ProCharger F1-R centrifugal blower. Between the blower and those pistons lie some great parts. There's a CSU Pro Series blow-through carb, an Indy intake manifold, and a set of CNC-ported Indy 360-2 heads that direct all that air and fuel from the blower and carb. The heads have 2.08/1.65-inch Ferrea valves in them along with K-Motion valvesprings, and T&D rocker arms. A COMP solid-roller cam is the brains of the operation. Duration on that bad boy is 278/286 to let all the air in and all the air out through the combustion cycles. Lighting all this goodness off is an MSD ignition system with a Pro-Billet distributor, a Blaster coil, and a Digital 7 ignition box. Base timing is 30 degrees and under boost it is set at 19 degrees. TTi headers with 2-inch primaries carry the spent exhaust gases away through a 3-inch exhaust system and Dynomax Ultra-flo welded mufflers.

Backing an engine that makes all this power is a lot of work and Romano made some stout choices to ensure that his 1,000hp mill would not be running through a transmission and rear rated for far less than that. Not deviating from the Mopar plan in the transmission department, Romano went to Sean Wiley at Pro-Formance Transmission for the built 727 TorqueFlite that also came with a transbrake and uses a super shield to protect everyone in the car from flying parts in the event of a catastrophe. The torque converter is a 4,500-stall piece from Frank





Peter wanted to combine some elements of the Pro Touring world into his interior. With the well-bolstered driver and passenger seats, the dash that is wonderfully trimmed out, and the shifter finishing work in the console, it does have the slick hint of the Pro Touring world. All that glorious rollcage lets us know that we're still planning on hauling in a straight line though!



Peter has owned and wrenched on lots of cars over the years and when you have that experience you develop a pretty good eye for what works and what doesn't. This dash, filled with Auto Meter gauges is one small part of the car but it speaks to the level of detail the rest of the machine is finished with.













Heck if we were able to stop at telling you that this engine compartment was filled with a 434ci 340X-based mill, that would be good enough for most people, but Peter went to the next level with a ProCharger F1-R. You are looking at 1,000 hp at rest.





Eschewing the normal EFI routine that most boosted engine owners go with these days, Peter stuck with a tried-and-true blow-through carb. This one is the CSU Pro Series piece that saved this engine program and is nicely driveable, Romano says. Note all the room. E-Bodies swallowed Hemi engines easily so even a dressed-up small-block like this is swimming in there.



Oh how the look of performance evolves. In the '70s, it was the stinkbug look, all jacked up and crazy. In the '80s it was fat Pro Street rubber out back that said you meant business. The '90s saw guys cruising on slicks and the look today has become this and we approve. When you see a car with this amount of radial on the back and that ProCharger racket emanating from the hood, steer clear unless you have something to fight back with.

Lupo and Dynamic Converter. The driveshaft is a large-diameter aluminum piece with nice yokes that hold onto 1350-series universal joints to make sure the power is not going to be interrupted. The final piece in the power equation is a 3.70-geared 9-inch third member that uses an aluminum centersection and Moser axles.

Now let's talk about those tires because they're a defining factor for what's cool. Nothing is cooler right now than small-tire drag racing and those Mickey Thompson radials on the back of Romano's car rule the roost at the digs for street-style cars. If this thing had been built in the 1990s it would have had big steam rollers under it. Today's look is neater and it opened a new door to long-time drag racer Romano. "I have raced lots of cars with big slicks

under them," Peter told us. "I'm looking forward to the challenge of applying all this horsepower to the track with the smaller tires." He won't be doing that alone though as the suspension in the car has been optimized for that activity with Calvert monoleaf springs out back and QA1 adjustable shocks. Up front the Mopar Performance springs and Summit Racing shocks control movement along with some Mopar Performance torsion bars.

Making 1,000 hp stick is not easy but with the chassis components Romano has under that car, it should be laying down some numbers at Cecil County Dragway when the place opens back up in the spring. The engine fiasco took Peter out of drag racing season this year but he'll be ready for it come spring!

#### "...the chassis and that end of things were totally in order. It was the horsepower that proved complicated."



A very small amount of cutting and modification on the hood was needed to get the ProCharger plumbing to fit properly. How much? The scoop was raised 1.5 inches by Pete. We're glad he kept the hood because this thing just looks boss.

#### FAST FACT

**1970 PLYMOUTH 'CUDA** CAR OWNER: Peter Romano • West Grove, PA

#### ENGINE

TYPE: 434ci Chrysler small-block

**BORE X STROKE:** 4.155 inches x 4.0 inches

**BLOCK:** 340X factory high-performance casting

ROTATING ASSEMBLY: Mopar Performance crank, Eagle H-beam rods, 8.8:1 Wiseco pistons

CYLINDER HEADS: Indy 360-2 aluminum heads, 18-degree valve angle, CNC ported

**CAMSHAFT:** COMP Cam 278/286 duration

VALVETRAIN: 2.08/1.65 Ferrea valves, K-Motion valvesprings, T&D rocker arms, Smith Brothers pushrods

INDUCTION: Indy intake manifold, CSU Pro series 950cfm blow-through carb, ProCharger F-1R

**FUEL SYSTEM:** MagnaFuel pump and pressure control system, boost referenced

**EXHAUST:** TTi Headers with 2-inch primaries and Dynomax Ultra Flo welded mufflers, 3-inch pipes

**COOLING:** Griffin aluminum pro-series radiator

FUEL: gasoline

**OUTPUT:** 1,037 hp at 6,500 rpm and 889 lb-ft at 5,550 rpm

**ENGINE BUILT BY:** Awesome Engines in Shelbyville, Delaware

#### DRIVETRAIN

**TRANSMISSION:** 727 TorqueFlite standard ratios and a transbrake built by Pro-Formance Trans

**DRIVESHAFT:** aluminum with 1350-series universal joints

**REAREND:** Ford 9-inch rear with aluminum centersection and 3.70 Pro Gears and Moser axles

#### CHASSIS

FRONT SUSPENSION: Mopar Performance front springs, Summit Racing shocks, Mopar Performance torsion bars, stock front steering and spindles

**REAR SUSPENSION:** Calvert monoleaf springs, QA1 adjustable shocks, Competition Engineering wheelie bars

STEERING: stock

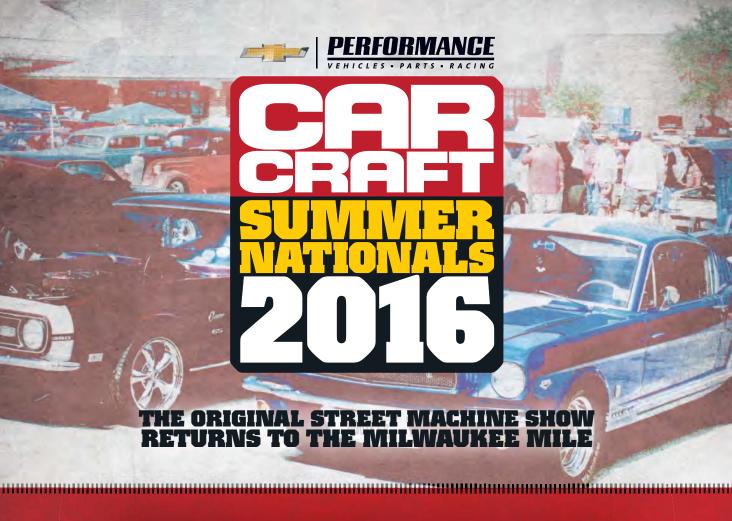
**BRAKES:** Wilwood Dynalite Pro Series discs front and back

#### **WHEELS & TIRES**

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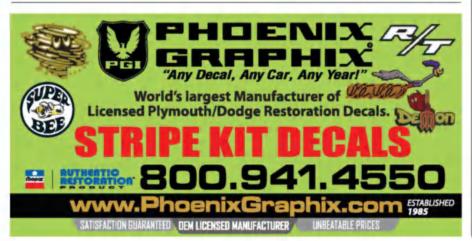


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#### GEN III HEMI: SERPENTINE ACCESSORY KITS

Serpentine accessory drive kits for 6.1L Hemis are now here! All American Billet serpentine kits are a great way to clean up any engine compartment, especially in vintage muscle car swaps where space and appearance is an issue. American Billet kits come standard with high-performance accessories and are made in the U.S.A. Brackets are made from 6061-T6 aluminum, and come in machine finish, polished, or their exclusive Silverline Series—black anodized with machined highlights for an aggressive, modern look. Prices start at \$1,795 for machine finish.

SOURCE: ALL AMERICAN BILLET

623-580-7214 · www.AllAmericanBillet.com



Summer might be over, but heat is just around the corner. Avoid heat-related failure in your 727 trans before it happens with Perma-Cool's Maxi-Cool Junior transmission cooler (PN 13211). It provides optimum cooling in a compact design, thanks to half-inch tubes that feature turbulators, and an 8-inch electric fan that creates airflow as needed. It's perfect for limited space applications and each features -6AN male fittings with -6AN-to-11/32-inch hose-barb fittings (included in kit). Coolers come with a limited lifetime warranty.







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